LANGER’S AXILLARY ARCH IN CADAVERIC DISSECTION

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ABSTRACT
We present a case of Langer’s Axillary Arch which we came across during the dissection of a 62 year old female human cadaver. This anomaly was first described by Ramsay in 1812; he was the first author to observe this anomaly in 1795 as an oblong muscle that stretched from the pectoralis major to the latissimusdorsi and teres major. The axillary arch is an anomalous slip of muscle that arises from the body of the latissimusdorsi and inserts into the pectoralis major muscle (Turguthb et al., 2005). In clinical setting there is less than 1% prevalence, it lies adjacent to vital neurovascular structures (Daniels and dellaRovere, 2000). The axillary arch is reported to potentially interfere with access to normal axillary tissue (Gray, 1976; Petrek and Blackwood, 1995; Besana-Ciani and Greenall, 2005). In one patient with paraesthesia and pain in the upper limb it was found that these symptoms were because of neurovascular compression and they got resolved only after resection of the arch (Haninec et al., 2009). In another patient with upper extremity swelling, pain and venous thrombosis from compression and obstruction of axillary vein, the symptoms resolved after resection of the arch (Hafner et al., 2010). The axillary arch is reported to potentially interfere with access to normal axillary tissue (Ang et al., 2009), to conceal sentinel lymph nodes (Keshtgar et al., 1999; Ando et al., 2010), and to cause confusion with typical landmarks during surgery (Georgiev et al., 2007). Possible presence of an axillary arch must be considered during clinical examination of the axilla, during surgical interventions in that region, or while looking for site of compression of the neurovascular bundle of the axilla (Georgiev et al., 2007). The presence of a muscular arch may cause difficulties in staging lymph nodes, and cosmetic problems and this muscle predisposes to local recurrence in patients with melanoma and breast cancer. In such cases, inaccurate staging information could negatively affect systemic treatment decisions after surgery (Khan, 2008). Since Axillary Arch is a clinically important structural anomaly, additional details about its characteristics and clinical correlations may be helpful to radiologists, clinicians, and surgeons.

Keywords: Langer’s Axillary Arch

CASES
During the dissection of a 62 year old female human cadaver, we came across a muscular band which when fully dissected was identified as axillary arch. The anomalous muscle band consisted of an extension from the lateral border of the latissimusdorsi muscle. When this band was traced along its course through the axilla, it passed obliquely upward, crossing over in front of the axillary vessels and nerves of the brachial plexus. At the end, the triangular muscular part blended with the coraco-brachialis muscle. The muscle measured 7 cm in length, 2.5 cm wide and 3 mm thick and was supplied by the fibers from the thoracodorsal nerve. This anomaly was first described by Ramsay in 1812, he was the first author to observe this anomaly in 1795 as an oblong muscle that stretched from the pectoralis major to the latissimusdorsi and teres major. The axillary arch is an anomalous slip of muscle that arises from the body of the latissimusdorsi and inserts into the pectoralis major muscle (Turguthb et al., 2005). In clinical setting there is less than 1% prevalence, it lies adjacent to vital neurovascular structures (Daniels and dellaRovere, 2000). The prevalence of the presence of this muscle varies from 3% to 27% in cadaveric dissection studies. The axillary arch is reported to potentially interfere with access to normal axillary tissue (Gray, 1976; Petrek and Blackwood, 1995; Besana-Ciani and Greenall, 2005). In one patient with paraesthesia and pain in the upper limb it was found that these symptoms were because of neurovascular compression and they got resolved only after resection of the axillary arch (Haninec et al., 2009).
another patient with upper extremity swelling, pain and venous thrombosis from compression and obstruction of axillary vein, the symptoms resolved after resection of the arch (Hafner et al., 2010). The axillary arch is reported to potentially interfere with access to normal axillary tissue Ang et al., 2009), to conceal sentinel lymph nodes (Keshtgar et al., 1999; Ando et al., 2010), and to cause confusion with typical landmarks during surgery (Georgiev et al., 2007). Possible presence of an axillary arch must be considered during clinical examination of the axilla, during surgical interventions in that region, or while looking for site of compression of the neurovascular bundle of the axilla (Georgiev et al., 2007). The presence of a muscular arch may cause difficulties in staging lymph nodes, and cosmetic problems and this muscle predisposes to local recurrence in patients with melanoma and breast cancer. In such cases, inaccurate staging information could negatively affect systemic treatment decisions after surgery (Khan, 2008). Since Axillary Arch is a clinically important structural anomaly, additional details about its characteristics and clinical correlations may be helpful to radiologists, clinicians, and surgeons.

Learning Points
1. The axillary arch may be the cause upper limb entrapment of neurovascular bundle in the axilla and can cause thrombosis of the upper limb.
2. This muscle predisposes to local recurrence in patients with melanoma and breast cancer. In such cases, inaccurate staging information could negatively affect systemic treatment decisions after surgery.
3. Radiologists' familiarity with the arch can improve their recognition of this muscular variant so that they can communicate appropriate clinical correlations to referring physicians.
REFERENCES


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